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Wyoming	Education
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StormReady Continues to Grow

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A Grassroots Project at WFO Riverton

On August 25, 2009, Union Pass, Wyoming, became the very first community in the nation to become "WildfireReady." Shortly thereafter, Teton County, Wyoming, was recognized as the first WildfireReady County in the nation on September 1, 2009.

Both Union Pass and Teton County expressed a strong interest in having a preparedness program dealing with the hazard of fire in the wildland-urban interface. Additionally, Teton County and Grand Teton National Park have cooperated to earn the distinctive honor of being the nation's first WildfireReady county and national park, respectively. WildfireReady is modeled after the National Weather Service's (NWS) highly successful StormReady® Program which assists communities in improving hazardous weather communications and preparedness activities.

It is hopeful that WildfireReady will gain more regional and national attention in years to come. The demand for Fire Weather Services across the United States continues to quickly grow, as each year wildfires consume a great extent of nature's landscape. As part of WildfireReady, the NWS educates communities about preparing for favorable or extreme fire weather conditions, especially during the fire weather season.

Both Union Pass and Teton County held recognition ceremonies attended by Emergency Management, national park, and forest service officials, as well as the general public. The photos at left are from this past summer's ceremonies.

If you would like more information about becoming
WildfireReady, please contact either Kevin Lynott or Chris Jones at:



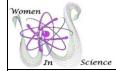
JANUARY 15, 2010

Group photo from the Union Pass WildfireReady dedication ceremony August 25, 2009. Holding the WildfireReady recognition sign is Dale Corkill of the Union Pass Emergency Preparedness Council.



Kevin Lynott (right) presented a WildfireReady sign to Jason Biermann, Rich Ochs (Teton County Emergency Management), and Heather Voster (NPS) in Jackson.

Kevin Lynott Chris Jones (307) 857-3898 x642 (307) 857-3898 x726 Kevin.Lynott@noaa.gov Chris.Jones@noaa.gov



Women - Men in Science



On the morning of October 2, 2009, over 300 young women in grades 7 through 12 gathered at Central Wyoming College. These young women were the participants in the fifth Women in Science Conference, an all-day event where students are able to interactively learn about various careers in the fields of math, science, and technology. Students were able to participate in two, one-hour breakout sessions during which they were able to meet with professionals in various fields to have an interactive introduction to their careers. Some of the represented careers included were Optometry, Strategic Planning, Physics, Geology, Radiology, Hydrology, Veterinarian Science, Paleontology, Forensic Science, Pathology, Physical Therapy, and others. These sessions were prefaced by a Keynote Speaker, Dr. Michele Tuttle, who spoke of her experiences as a research geochemist. Feedback from students, teachers, and speakers was quite positive from this annual event.



NOAA's National Weather Service has been heavily involved in the development of these conferences, resulting in several weather service employees filling the roles of officers, board members, planning committee members, and/or volunteers on the day of the conference. The planning committee meets throughout the year on a monthly basis to organize the number of break-out session presenters, keynote speakers, sponsors, vendors, volunteers, and to search for grant opportunities for additional funding. Attendance has increased over the years and is now limited to a first-come, first-served basis due only to limited resources. With the continued success of these events,



the Women/Men in Science Planning Committee will continue to alternate events each year pending adequate funding which is acquired through grants and local sponsorships. Plans are in development for a second Men in Science Conference which will be held in October of 2010. If you have questions, or would like to become involved in these conferences, please contact Katy Branham or Peggy Peterson at 307-857-3898 (x381 for Peggy) or through our Email addresses: Katy.Branham@noaa.gov and Peggy.Peterson@noaa.gov

Interacting with Wyoming Students - Wyoming Education Network (WEN)

Efforts are in the works for the National Weather Service in Riverton to begin utilizing the Wyoming Education Network (WEN) in order to reach a wider audience of schools across central and western Wyoming. The WEN is a distance learning tool used between schools, which provides a video and audio link. Students from many areas can then watch the same presenter at the same time, and can even have an interactive session with their instructor in order to ask or answer questions. The National Weather Service in Riverton is working out details to partner with Central Wyoming College to utilize their WEN classroom in order to conduct these talks. Preliminary dates are Thursday, February 11, and Thursday, April 15. Both WEN sessions will begin at 1:30 p.m. for these events are forthcoming; please check our website for updates concerning this exciting advancement!



StormReady Continues to Grow - Grand Teton First StormReady National Park

The number of StormReady[®] communities in western Wyoming grew by three this year as Grand Teton National Park, Natrona County, and the Casper/Natrona County International Airport came on board. StormReady[®], a NWS program that began in 1999, assists communities in establishing communication systems and increasing public safety awareness. Ultimately, the goal of StormReady[®] is to better prepare for the hazards of severe weather to help save lives and property.

"StormReady® was designed for communities to be proactive in improving hazardous weather operations and communications," said Chris Jones, Warning Coordination Meteorologist of the Riverton NWS office. "Enhanced communication services are a requirement of participation in the StormReady® program." In the case of Grand Teton National Park, park officials are now better equipped to communicate important hazard information to save lives and property, before and during the event. Several different methods of relaying weather information were established or enhanced through the StormReady® certification process.

"At Grand Teton National Park, we take seriously our role in providing a safe environment for both the local Jackson Hole community, and for the millions of people who visit the park each year. As a new StormReady® agency, we intend to do all we can to alert local residents and park visitors to severe weather events, whenever the situation arises," said Superintendent Mary Gibson Scott. "Being the first national park to achieve StormReady® status is especially gratifying, and we hope to serve as an example for others to follow."

Natrona County was recognized as StormReady® during National Preparedness month in September. Lt. Stew Anderson, Natrona County Emergency Manager, and his deputy, Theresa Simpson, have been proactive in the establishment of redundant communication systems throughout the county, including new outdoor warning sirens around Casper. Also, emergency management personnel have multiple ways in which to receive weather alerts, spotter training is routinely taught in several locations around the county each spring, and Lt. Anderson and Mrs. Simpson are quick to provide vital storm reports to the NWS.

Casper/Natrona County International Airport completed the necessary requirements for StormReady[®] designation in November. Leah Henderson, airport Project and Programs Manager, led the process of improving weather preparedness at the airport. This included the development of a Severe Weather Emergency Plan and placing NOAA Weather and All-Hazards Radio receivers at various locations on the airport premises.



Chris Jones (far left) and Kevin Lynott (far right) of the NWS in Riverton present a StormReady[®] recognition sign to Heather Voster (behind sign) and Superintendent Mary Gibson Scott of the National Park Service – Grand Teton National Park.

Some of the particular criteria that must be met in order to be recognized as a StormReady[®] community are:

- Establish a 24-hour warning point and emergency operations center;
- Have redundant ways to receive weather forecasts and warnings and to alert the public;
- Create a system that monitors local weather conditions;
- Promote the importance of public readiness through community seminars;
- Develop a formal hazardous weather plan for training severe weather spotters and holding emergency exercises.



Previously recognized StormReady[®] communities in western Wyoming are Teton and Hot Springs counties and the town of Greybull. More communities are already working on StormReady[®] certification for 2010, including one town and a community college. People interested in pursuing StormReady[®] accreditation are encouraged to contact Chris Jones, NWS Riverton, at (307) 857-3898 ext. 726.

New Hail Criterion for Severe Thunderstorms

An historic change to the NWS criterion to define the size of hail categorizing a thunderstorm as severe was implemented by selected weather forecast offices in the central United States and Rocky Mountain region on April 1, 2009. The NWS Riverton office was a participant in this change, which has now been implemented nationwide. The old standard of three-quarter inch diameter hail for designating a thunderstorm severe has been replaced by the new standard of one inch diameter hail.

For the past four years, the NWS offices in Kansas served as a test bed to measure the efficiency of using one inch diameter as the criterion for severe thunderstorms. One of the motivations for this experiment was the perception that numerous warnings for thunderstorms that produced hail of little damage or was not unusual would cause the public to view these warnings as only a minor threat. During the four-year Kansas project, customer feedback was collected with a very favorable response to the new criterion from emergency managers and the media. With the new criterion in place, public surveys concluded people were more likely to take action to protect themselves and their property. Another opinion voiced in the survey was that many people were happier not having television programs interrupted as frequently.

Forecasts for those thunderstorms producing hail less than one inch in diameter and/or wind gusts less than 58 mph, but still capable of producing a threat to lives and property, are detailed in NWS short term forecasts (for minor threat events) and significant weather advisories (for storms near severe thresholds). Another important thing to remember when reporting hail is to reference coin



Tree damage at the Riverton Country Club following a 74 mph wind gust on July 27, 2009. At least a dozen mature trees were damaged on the course.

sizes or the sizes of various sports balls (e.g., ping pong ball, golf ball, tennis ball, baseball). Also, be sure to distinguish hail that is quarter-sized (coin), denoting one inch diameter hail, and that of one-quarter inch diameter hail (roughly pea size). We hope this new criterion for hail in a severe thunderstorm serves you and your customers well, and we invite your feedback on this fundamental change to severe thunderstorm criteria.

Meteorologists Conduct Research to Possibly Improve Severe Thunderstorm Detection

Research comparing radar data, height of the freezing level, and hail reports is being conducted by meteorologists at the NWS Riverton office. The methodology is similar to that used by meteorologists at the NWS Des Moines, IA office who sought a better way to determine which thunderstorms were producing severe sized hail.

Researchers can evaluate storm attributes on radar by loading past thunderstorm events into the NWS Riverton's Weather Event Simulator (WES). The WES allows researchers to replay events and evaluate specific thunderstorm characteristics using radar data. Similarly, the WES can be used as a training resource by placing forecasters into a real-time scenario to improve diagnostic, interpretation, and software operation skills.

Thunderstorms that produced hail reports of at least 0.75 inches in diameter (since 2002) are being evaluated for the study. Past data from weather forecast models is then reviewed to determine the approximate height of the freezing level during the hailstorm. The data is then plotted on a graph to determine if any strong correlation exists between what is seen on radar and what size hail falls on the ground. Researchers have completed review of all storms during the period 2002 through 2009. The hope now is to determine if there are some helpful radar signatures pertinent to western Wyoming where forecasters might better distinguish between severe and non-severe thunderstorms. Potentially this would help improve detection of severe thunderstorms while at the same time limiting the number of warnings issued for storms that are non-severe.



Hail up to the size of tennis balls fell on the east side of Greybull around 5:15 p.m. on August 7, 2009. Severe thunderstorm warnings and a tornado warning were issued well in advance of the storm.

Winter Storm and Severe Weather Performance

One of the methods by which the Riverton NWS office assesses its performance is through the verification of winter storm and severe thunderstorm warnings. Each year the office reviews methods which could improve and enhance services. Also, local office statistics can be helpful in identifying specific locations where warning services lag behind office averages and goals.

A review of winter storm warnings from the 2008-09 season reveals that NWS Riverton issued 223 warnings, which was double the average of the previous five-year period. The wet and active spring season helped to put an end to the prolonged drought and significantly increased the issuance of winter storm warnings. The accuracy rate of 90% was on par with the Government Performance and Results Act (GPRA) goal. Lead time from issuance to event occurrence was nearly 16 hours, which was higher than the GPRA goal of 15 hours. Despite the high number of warnings, the false alarm rate of 43% was nearly 10 percentage points less than the season before. Local goals for this season are to increase accuracy while at the same time continuing to improve the false alarm rate.

As for severe thunderstorm warning performance, the numbers indicated a slight dip from what has been seen over much of this decade. The accuracy rate of 58% was less than the eight-year average of 67%. Also, NWS Riverton provided average lead time of 12.5 minutes to the first reported severe weather event, about one minute under the eight-year average. The warning false alarm rate was one bright spot dropping to 69% after five years of averaging above 75%. Incidentally, there are no GPRA goals for severe thunderstorm warnings, just tornado warnings which comprise a very small sample size in western Wyoming.





One way the Riverton NWS office is trying to address improvement in severe thunderstorm warning verification is with continued outreach through the severe weather spotter training program. In 2009, WFO Riverton gave 25 spotter talks with a total attendance of 265. Storm spotters, especially in rural and sparsely populated areas like western Wyoming, are vital to assisting forecasters with ground-truth reports as to what the storm is actually producing. Obtaining spotter reports can not only help forecasters issue more timely warnings but also assist in verifying valid warnings. These reports can also be used after the fact to conduct studies that may further assist meteorologists in differentiating between severe and non-severe thunderstorms (read more on page 4 about ongoing hail research). Anyone interested in having their agency or group host a severe weather spotter's class is encouraged to contact Chris Jones, NWS Riverton, at (307) 857-3898 ext. 726. The training is great for rural firefighters, farm and ranch groups, church and civic groups, mining and drilling operators, and outdoor enthusiasts.

Training Volunteers to Measure & Report Precipitation



NWS Riverton meteorologists conducted precipitation measurement training this fall in support of the Community Collaborative Rain, Hail & Snow Network (CoCoRaHS). Training was conducted at ten sites around western and central Wyoming. CoCoRaHS is a grassroots program where volunteers report daily precipitation online. These observations go into a national database that is free and accessible to all. Daily precipitation reports are mapped on the CoCoRaHS homepage.

CoCoRaHS was founded in 1998 at the Colorado Climate Center at Colorado State University and has since grown to over 15,000 volunteer observers. With the addition of 12 new states in 2009, CoCoRaHS is now active in all 50 states and the District of Columbia.

The training session teaches volunteers how to properly measure rain and snow while introducing them to the equipment used by current CoCoRaHS observers. Also included is a tour of the CoCoRaHS website and information about how to join CoCoRaHS and how to obtain precipitation measuring equipment.

We look forward to conducting more training sessions in the fall of 2010. Check our website at http://www.weather.gov/riverton for times and locations as fall approaches. More information about CoCoRaHS and how you can become an observer can be found at http://www.cocorahs.org.



Fire Weather Improvements

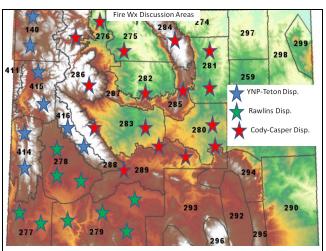


Figure 1: Map showing the three different areas for the Fire Weather

After receiving customer feedback from the annual fire weather user meeting in February of 2009, the Riverton fire weather team decided to implement three separate discussion sections in the fire weather forecast product to better describe the expected weather in particular climatic regions of the state (Figure 1). The separate sections also allow the Federal Agency dispatcher the ability to brief crews in their particular dispatch area and not have to spend valuable radio time reading weather information not pertinent to their area. So far, the discussion split has been met with cheers. The Riverton fire weather team is currently creating a concise Dispatch Area Forecast (DAF) product to further reduce the time dispatchers have to spend reading zones forecasts relevant to their district.

The Riverton fire weather team participated in four intermediate Wildland fire behavior (S-290) courses in 2009. Team members were asked to teach the weather portion of the course to Wildland firefighters. The fairly in-depth weather portion consists of approximately a day and a half of instruction and example exercises.

Riverton Cooperative Observer Program

The Riverton National Weather Service office supports 83 Cooperative Observer (COOP) sites across western and central Wyoming. The observers at each of the 12,000 COOP sites located across the United States, and many of its territories, are volunteers who daily collect high and low temperatures, as well as rain and snowfall amounts from NWS supplied instruments. These sites, and their vital weather data, are the backbone of the national climate observation network, which keeps track of climate trends across the nation, such as the previous droughts that have affected much of the region.

The Cooperative Program Management team of Ralph Estell and Rich Miller, with the assistance of Hydrologist Jim Fahey, travel across the state to keep instruments up and running, and annually complete site inspections and training of new observers. One of the newer programs we have to offer this past year is to connect our observers to the NWS COOP website, better known as Weather Coder- 3, so they can input their daily data in to the site, and thus eventually go "paperless". This new program will allow the office and other users of this data to look at it nearly instantly, and we won't have to wait until the end of the month to see what happened at those sites.

During the course of the year, a number of our long term and dedicated observers were presented with awards. Jack Darnell of Jeffrey City received the John Campanius Holm award for his 21 years of exceptional service to the COOP program (see upper right picture). An annually presented national level service award, the Holm Award is the Department of Commerce's second highest award and was given to only 25 observers in 2009.

Our office was also presented Length of Service Awards to; Tower Falls (YNP) - 100 year Institution Service Award, Darwin Ranch - 35 years, Jack & J. Dee Darnell - 20 years, Rita Haywood of Bates Creek - 15 years, Alan Ross of Riverton – 10 years, Rick Wilmes of Oregon Trail - 10 years, Steve Aeilts of Casper - 10 years.



Jack Darnell (right) is presented with the John Campanius Holm Award by Ralph Estell of NWS Riverton.



Rick Wilmes of Oregon Trail COOP near Sweetwater Station is pictured with his 10 year length of service award.

Create Your Own Weather Report

We at the National Weather Service in Riverton realize there are a lot of pages to wade through on our website in order to find all the information you need. Usually, several pages need to be visited to find information such as Severe Thunderstorm Warnings, Seven Day Weather Forecasts, and Local Storm Reports.

Those "Multiple Page" days are a thing of the past! In late November, the National Weather Service in Riverton released its new webpage labeled "Create Your Own National Weather Service Product" (Fig. 2) for its customers. This web page is located at:

www.weather.gov/riw/?n=product_generator

Users of this page will see a map at the top outlining both county and weather zone boundaries. Below this map are all the products you can choose from to display for your county or zone. Some products are created specifically for Wyoming county boundaries, while others are created specifically for our weather zone boundaries. The different products are separated into different tables. In order to view a "County Based" product, users must select a county. Likewise, users must select a specific zone for any "Zone Based" products. Just select all products you want to view, and then click the "Make My Product" button at the bottom of the page. In seconds, you will see a new page with all the products you selected (if they are available and/or current).



Figure 2: Screen capture of the newly introduced "Create Your Own Weather Report" web page

We always appreciate any feedback on all newly-released pages, please don't hesitate to contact our Webmaster with any constructive feedback (<u>w-riw.webmaster@noaa.gov</u>). Thank You!

New Climate Data Products



The Riverton Weather Forecast Office has added two new climate data products to the Internet site: Daily Climate Data by Month and Cooperative Water Year Precipitation.

Daily Climate Data by Month lists climate data for the Riverton Weather Forecast Area, including the Automated Surface Observing System (ASOS) located at airports, and volunteer weather observers' stations. Data is viewed by the month for individual stations similar to the preliminary climate product that has been available for Casper, Lander, Riverton, and Rock Springs. Data is available for the current month and every month back to January 1999. All sites are updated once a day for the current month's data and the previous month's data.

Cooperative Water Year Precipitation shows the preliminary precipitation totals for the 12 months of the current water year for ASOS and volunteer observers' stations. The data is sorted by county. These data are updated once a day at around 10 a.m., with the main data entry occurring during the first week of the month.

The *Daily Climate Data by Month* and the *Cooperative Water Year Precipitation* can be found at http://www.weather.gov/riw. Just follow the left hand menu under "Climate" and click on "More..." The links can be found under the "Climate Data" section. Both have the designation "NEW!" beside them to help better direct those to the new data information.

www.weather.gov/climate/local_data.php?wfo=riw

Gage Installations and Hydrology Projects

Strong partnerships with other federal, state, and local agencies continued through water year 2009. A number of new projects and/or gage installations were completed in water year 2009.

- 1. Pahaska Weather Station. This site was installed in July by the NWS hydrologist with the help of the United States Forest Service (USFS) and the University of Wyoming. This station logs 15-minute temperature, precipitation, relative humidity, and soil moisture--all data is transmitted every hour via Geostationary Operational Environmental Satellites (GOES). This site's weather data will greatly help in monitoring flash flood/mass wasting events that occur in the eastern-most portion of Sylvan Pass. Also, this will be used extensively by NOAA, USFS, Bureau of Reclamation (USBR), and the Wyoming state climatologist's office in monitoring the spring runoff along the North Fork Shoshone River.
- 2. Rain gage installations along Powder River headwaters. The NWS hydrologist installed two rain gages at state owned gaging sites along the headwaters of the Powder River Basin. These gages will be used to better track and forecast future rain on high snow runoff events. Perhaps most importantly, the new gages will also assist in better forecasts of flash flood events that will affect the city of Buffalo and the town of Story.
- 3. Rain gage installations along Upper North Platte tributaries. Partnering with the state water hydrographers as well as the USGS, the NWS hydrologist was able to install four rain gages along headwater locations along the Upper North Platte Basin. These gages will be used to better forecast future rain on snowmelt high runoff events, especially those that will affect the town of Saratoga.
- 4. Rain gage installation along Little Snake River. The NWS hydrologist worked with the USGS and installed one rain gage along the upper reaches of the Little Snake River. The gage will be used to better track and forecast future rain on snowmelt high runoff events that will affect the downstream towns of Savery, Dixon, and Baggs.
- 5. Air temperature sensor installations along Upper North Platte tributaries. Again partnering with the state water hydrographers, the NWS hydrologist was able to install two air temperature sensors along tributary locations along the Upper North Platte Watershed. The gages will be used to better forecast the timing of the beginning of the snowmelt runoff, in order to better forecast the onset of future high runoffs that will affect the town of Saratoga.

Additional projects to improve hydrologic services across not only western and central Wyoming, but the entire state, were also completed this year.



Rain gage at Four Lakes Canal near the headwaters of the Powder River above Buffalo in Johnson County.

Enhancements to Short Term River Forecasting across Wyoming by generating five-day forecasts from the original 24-hour forecast. This was completed using new gages gained through partnerships with other federal, state, and local governments across Wyoming.

Enhancements to Quality, Clarity, and Timeliness of Graphical Long-term Hydrological Products to Customers, specifically with *Drought Outlooks*, *Flood Potential Outlooks*, and *Water Supply Outlooks*.

The establishment of a new forecast point along Little Snake River using a state-owned gaging site upstream of the towns of Dixon and Baggs. The Colorado Basin River Forecast Center will be able to provide a stage/flow forecast for the new site. This forecast point is designed to provide the town of Baggs with at least eight hours of forewarning during a high water event.

Middle Fork Powder River Project will progress with work already begun with the Natural Resources Conservation Service (NRCS) on site surveying staff gages in Kaycee. This will allow for monitoring of high flows and the establishment of peak travel times from the new upstream gage to the town of Kaycee. A reference gage will be installed at the automated site that was installed in 2008. The continued use of the automated gage in conjunction with the short-term forecast ensemble, will provide for better service to emergency officials in Kaycee and all of Johnson County.

Hydrology Projects

Popo Agie Gaging Project will continue with work completed alongside the City of Lander and the local NRCS. This work will improve the bankfull and flood stages established at the Mortimore Lane river gage in 2009. Also, a staff gage is to be installed at the Central Wyoming College property at Sinks Canyon, upstream of the Mortimore Lane river gage. The staff gage will be used for stage data during data outages from the automated site as well as a main tool to start an outreach project with Fremont County schools. The outreach program will involve monitoring water quality, measuring river flows/stages along the Popo Agie River near the automated gage as well as near the staff gage. There is also a great opportunity to work with the Wind River Alliance and the Native American Young Scientists program that the Wind River Alliance sponsors.



Greater Yellowstone Gaging Project, working alongside the National Park Service (NPS), will strive to ensure adequate rain gage coverage for both flash flood/mass wasting prone areas of Yellowstone. Another aim of this partnership is to make sure the NPS has the functionality to obtain data from any "partnered" USGS/NPS/NOAA gages throughout Yellowstone.

Laramie River Gaging Project is a partnership with the University of Wyoming and the City of Laramie to install an automated river gage along the Laramie River approximately seven miles upstream of Laramie. This gage will allow for more timely and accurate river forecasting for Albany County and City of Laramie emergency officials supporting the general public. The gage should be installed during the summer of 2010.

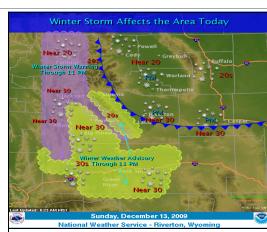
Pine Creek Gaging Project utilizes the skills and resources of the USGS, University or Wyoming, and the Wyoming State Water hydrographers. Aims of this project include: a) install real-time telemetry at a state-owned gage below Fremont Lake, and b) install a rain gage at the USGS-owned river gage above Fremont Lake (for rain on snowmelt high runoff events). The goal of the project is to better forecast high flows along Pine Creek, which runs right through the town of Pinedale.

Installation of other rain gages will continue statewide in 2010. Most notably, rain gages are anticipated to be installed on state/USGS/USBR-owned gages in the Piney Creek Watershed, South Fork Shoshone River Watershed, Little Goose Creek Watershed, and the Big Horn River Basin.

Graphical Weather Story on the NWS Riverton Website

Ever need to get a quick glance at today's weather across western and central Wyoming? Maybe you want to quickly get a picture of the general weather scenario or check an area of western and central Wyoming for potentially hazardous weather. Then, the Weather Story graphical forecast may provide the information you can use. In just a few moments, it is easy to get a quick handle on the most important weather issues expected to impact western and central Wyoming in the coming few days.

The Weather Story graphical forecast can be found on the homepage of the NWS Riverton website, http://www.weather.gov/riverton, directly below the main clickable forecast map. Or, you can go straight to this graphic at: http://www.crh.noaa.gov/wxstory.php?site=riw. The Weather Story is generally created between 4 and 7 a.m. each day, and is updated as conditions warrant.



An example from the December 13, 2009, Weather Story graphical forecast issued by NWS Riverton.